THE MEDICAL EXAMINATION OF FOOD HANDLERS

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IT may be broadly said that the ideals of sanitation and hygiene are based upon an inherited tendency toward self-defense. "The natural instincts of animated life," said Epictetus, "to which man also is originally subject is self-preservation and self-interest. But men are so ordered and constituted that the individual cannot secure his own safety unless he contributes to the common welfare." This is even truer of modern life than in the case of the older civilization. In fact, so intimate are the associations of each man with his neighbors that the far-seeing citizen may only hope to secure his own comfort and welfare, and to protect himself and his household from untimely disease and even death, by seeing that the same protection is afforded to all those he comes in contact with. Thus it comes about that the prevention of communicable disease, like the provision of a clean water supply and efficient sewerage systems, must of necessity be community efforts.

The knowledge that dangerous diseases are possible of conveyance by food served in public kitchens and restaurants should again show the need for concerted action to preserve the health of the individual citizen.

The striking story of "Typhoid Mary" by its dramatic appeal, more than any other incident of a like nature, has focused the attention of the public upon the common hazard of the ambulatory carrier of disease germ in his relationship to foods served in restaurants, lunch rooms, and hotels. The physical examination of food handlers was, therefore, the logical reply to the query of health experts and the public as to what should be done about this new danger to community safety.

That the examination of food handlers passed from the realms of theory to those of accomplished facts was due to the efforts of the New York City Health Department. This municipal enterprise was inaugurated some eight years ago in New York under the direction of Dr. Louis Harris, who stated the results of the first two years in the following words: "It is only a beginning, but one whose significance and ultimate possibilities may well be called impressive. The manifold benefits that may ultimately accrue from this system must be left to the imagination of those who have glimpsed the possibilities of preventive medicine, and especially of adult hygiene and periodical medical examination."

This work so well begun was naturally at first tentative, with the hope that experience would demonstrate the best procedures to serve so great a venture in disease prevention. Difficulties in the form of medical service soon arose, partly due, no doubt, to the inexperience of the private physicians who were called upon to assist the health department in making the physical examination. The occupation clinics conducted by the department were handicapped by their limited staff, and yet the work done was clearly more satisfactory than that of the private physician. In one year the occupation clinics conducted by Harris made 23,386 medical examinations to 59,000 by the private physicians. Yet out of 127 cases of active tuberculosis found 118 were diagnosed at the occupation clinics. This result clearly indicated either faulty knowledge on the part of the private physicians or methods so lax as to show complete indifference to the importance of the procedure.

In the New York experiment a very complete medical examination was attempted, which raised the important

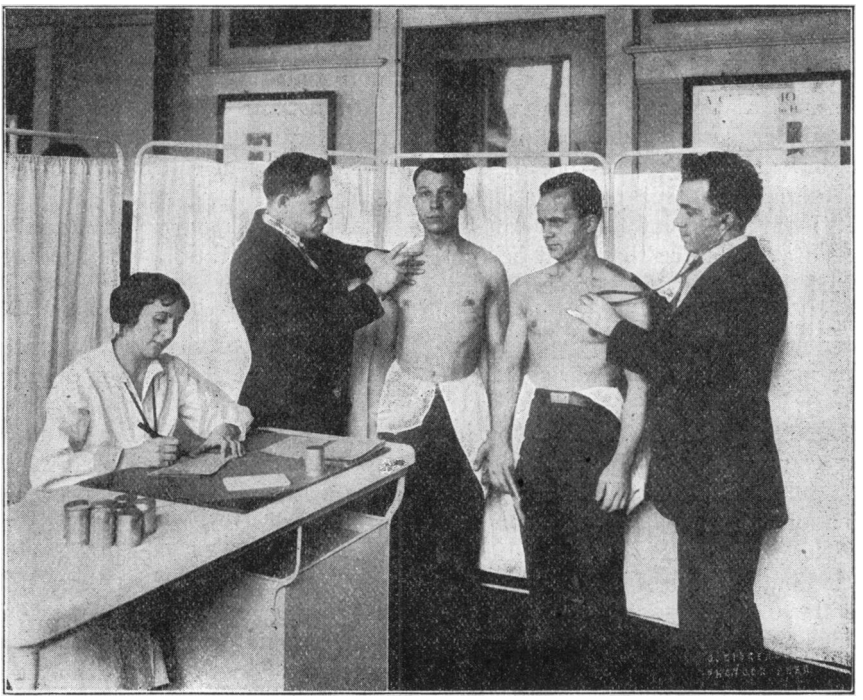
question as to whether the true reason for food handler examinations had been met in this way. Is it desirable or necessary in such a procedure for a municipality to undertake to look for all physical defects or only for the presence of contagious diseases? This question is important from the point of view of the expense of the service that shall be rendered and the quality of the expert advice needed. From the aspect of the spread of communicable diseases, the sanitary examination embracing that for contagion alone may be clearly differentiated from the form of examination required by insurance companies and life extension institutes. On the other hand, the physical examination of food handlers described by Gloyne (*J. A. M. A.*, May 13, 1922), as carried out in Kansas City, Kansas, is apparently directed towards contagious conditions alone, and in this respect principally venereal diseases, although the desirability of a mental examination is suggested by the health commissioner.

It is clear that the medical examination of food handlers as a health measure need not be as comprehensive nor directed toward the finding of physical defects of a non-contagious nature which, although informing and perhaps remediable upon a broad scale, do not affect the usefulness or desirability of the food handler as an employee.

It is thus virtually immaterial to the health administration whether the food handler under its jurisdiction be suffering from flat foot or spinal curvature, whereas it is very vital to know of the existence of tuberculosis or diphtheria in such employees.

In the main, public-health authorities must necessarily take a broad-minded attitude with regard to the prevention of disabling diseases and, indeed, toward the maintenance of health itself as a community asset. This view, however, must give way to the more pressing need of determining the necessary freedom from contagion of those who are doing work in such intimate contact with the public as that of serving food and drink.

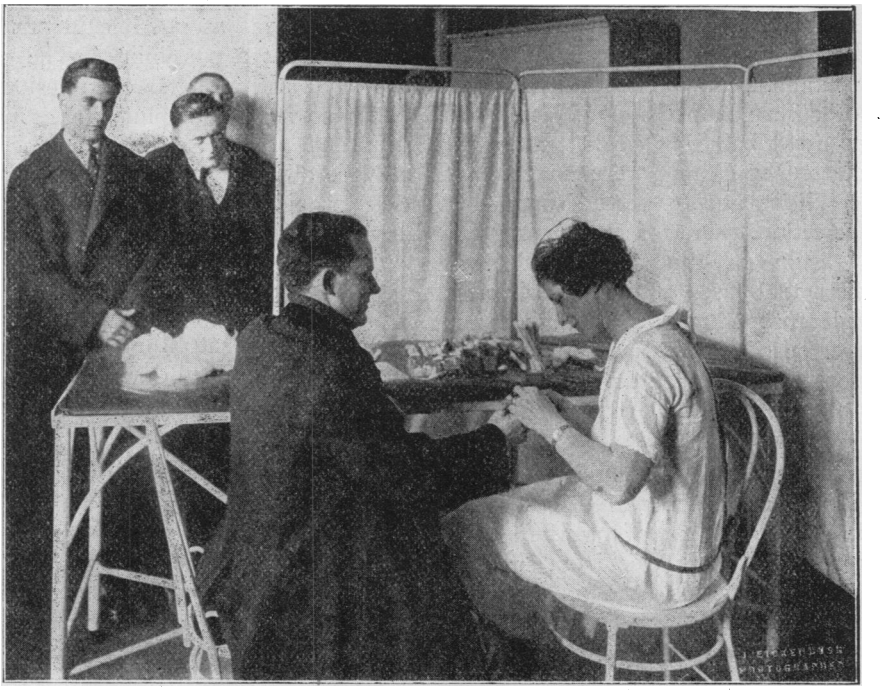
In the case of the city of Newark the necessity for such an activity had been



clearly brought to our attention by the repeated reports of tuberculosis and venereal infection among the cooks and waiters of the city. The examination planned covered only the elementary steps to determine the presence of the common infections. Thus, a thorough chest examination to be made for tuberculosis, an examination for skin diseases or eruptions, a routine throat swab, a Widal test for typhoid fever, and in males the examination of the external genitals for venereal diseases. Such an examination would at least provide the minimum safeguards against infection by food. Sufficient authority for such an examination existed in the New Jersey Sanitary Code, which in regulation 37 states: "Any waiter, cook or other person employed in any hotel, restaurant, boarding house or other place where cooked food is offered for sale, who handles or prepares food may be required to submit to a physical examination by a medical inspector of any local board of health or the State Department of Health for the purpose of ascertaining whether or not he is affected by any communicable disease, whenever in the judgment of the health officer such examination may be necessary."

To further extend the requirement of physical examination, and to authorize the use of private physicians if the department so wished, an additional city ordinance was passed in 1918 which brought all food handlers under its provisions.

Under this authority the examination of food handlers was started in 1920. The food handlers coming most intimately into contact with cooked foods, such as employees of restaurants and hotels, were required to appear at the Department of Health clinics for examination. Where food handlers, such as milk dealers, soda fountain operators, etc., could present a certificate from a reputable physician they were accepted. For the guidance of the latter, and to standardize this examination, a letter of instruction was issued to all physicians making such examinations, giving the minimum requirements of the medical examination.



RESULTS OF NEWARK EXAMINATIONS

Since August, 1920, there have been 11,851 examinations made by the Newark Department of Health alone. As stated before, no special effort was made at this examination to determine physical defects, so that the analyses of these figures were of interest only where contagion was found. The following conditions were found:

Year	Number Examined	Suspicious for Tuberculosis	Positive Tuberculosis	Venereal Disease	Skin Disease	Vaccination
1920	2314	439	25	10	42	149
1921	4525	625	48	18	12	35
1922	5012	395	18	9	0	34
	11851	1459	91	37	54	218

TUBERCULOSIS

The number of suspicious cases of tuberculosis fluctuated only slightly, the figures for 1922 being only for the first five months of the year. The proportion of positive to suspicious cases of tuberculosis found, 91 out of 1459, 6.3 per cent, is apparently a low one. It is explained partly by the fact that many of these cases discontinued food handling after the preliminary examination, preferring to seek other work than to be discharged as a result of their physical condition. Others, put under special treatment and advised to rest, at subsequent examinations had no clinical symptoms. Some of these cases were observed for many weeks, and every effort consistent with safety of the public was made to keep these people on their jobs. The positive cases of tuberculosis to the thousand examined each year was as follows:

1920. . . . . 9 per 1000
1921. . . . . 9 per 1000
1922. . . . . 6 per 1000

This is a comparatively low incidence for the disease amongst a special group of industrial workers and less than the incidence recorded for the general population. The large number of suspicious cases required repeated examination and observation with laboratory controls. No definite diagnosis of tuberculosis was

made without the confirmation of the clinical symptoms by positive sputum and X-ray examination. The positive cases were of course immediately rejected and refused food handling cards. Many of the rejected applicants were unaware of their condition and expressed surprise at their rejection. One of the most gratifying results of this examination was that the actual cases of tuberculosis were put under proper medical treatment, and wherever possible or desirable sanatorium treatment was arranged for.

VENEREAL DISEASES

Among the 11,851 examinations made only 37 cases of venereal disease were found. This group of workers was therefore remarkably free from such infections. Under this head no diagnosis of venereal disease was made without positive laboratory findings, a positive smear showing the specific organism in gonorrhea and a positive Wassermann or a positive dark field diagnosis in the case of syphilis. These results were in contrast with the findings of Gloyne, who apparently found venereal diseases extremely common among the food handlers of Kansas City. Gloyne very rightly rejected all venereally infected persons from handling food. This stand was criticized by Ashburn (*J. A. M. A.*, June 3, 1922) and Irvine (*J. A. M. A.*, June 24, 1922). There can in my opinion little be said in favor of allowing venereally infected persons to handle foodstuffs. In the case of gonorrhea there is always the possibility of the spread of ophthalmia in the restaurant. Also the associated pus conditions in these cases cannot be regarded as free from danger to the public. In the case of syphilis, at least with active lesion during the primary and secondary stages of the disease, there is considerable risk of infection from syphilitic lesions in the mouth and throat by tasting food or the use of glasses and cups. In any case, although actual cases of such accidental infection may be infrequent, it is none the less our duty to prevent as far as possible in our power so abhorrent a possibility. The case of the syphilitic with no open lesion, with perhaps even a four plus Wassermann, is different. Such a person may conceivably be allowed to handle food provided that proper anti-syphilitic treatment is assured during the period of employment.

SKIN DISEASES

Only 54 skin eruptions were found. It is noteworthy that all but 12 were among employees examined during the first year. In the second year the number was less, and in the third year none were reported. This is a signal result showing the greatest freedom from skin eruptions of the food handlers since the examinations were inaugurated. It also indicates the refusal of the restaurant employer to engage individuals for this class of work when suffering from skin eruptions. Although many skin diseases were diagnosed as non-contagious, the position taken with regard to skin infections was that such were undesirable in food handlers. Although it is conceded that many types of streptococci are found normally upon the skin, it was considered that the contagion of boils and carbuncles was especially virulent and capable of being conveyed to food. The virulence of such germs found in milk during epidemics of sore throat must not be forgotten in this regard.

VACCINATION

Vaccination was required of all individuals. Two hundred and eighteen persons were found with no or unsatisfactory vaccination marks, a remarkable showing among so large a number of a special group of workers.

TYPHOID AND DIPHTHERIA

It is noteworthy that among this large number of food handlers not a single typhoid or diphtheria carrier was located, although a routine Widal test and throat and nose swabs were taken for each individual. This result was mainly due to the special laboratory efforts made to establish the identity of suspicious cul-

tures from the throat and nose. Any partial Widal test was followed up by a special investigation of the suspected individual by clinical methods. The results of this intensive follow-up clarified in a surprising way conditions which were at times apparently disconcerting.

SUMMARY

It has been asked: "Is the physical examination of food handlers possible for small communities in the light of its cost for specialized assistance?" The answer will depend upon the point of view and whether a medical or a sanitary inspection is contemplated. If the latter, the necessary examinations may be made by any well-equipped physician employed by a local board of health, assisted by a good laboratory, inasmuch as the greater part of the examination is routine laboratory tests for diphtheria, typhoid fever, and venereal diseases. On the other hand, a complete medical examination means the employment of many experts.

Granted that the expense for this special preventive activity can be met, are the results worth while? Although the findings of the examinations for a period of two years in the city of Newark indicate that contagion is not more prevalent among food handlers than among any other body of industrial workers, the evidence gathered shows that many of them were found to be employed while in a diseased condition. Inasmuch as in no other business is there so much danger of spreading infection as between infected food handlers and the consumer, the safeguarding of the public in this way is well worth while. It has been shown that even in its early stages it has had a remarkable effect upon the general welfare of the food handlers, eliminating from this group of workers the cheap labor of diseased persons from other occupations who might seek the lighter and more elastic hours of food handling. This is particularly true of food handlers for the reason that many are part-time, being frequently recruited from the married women and mothers of families who have some of their day at their disposal for industrial purposes.

From the point of view of preventive medicine, there can be little doubt that the physical examination of food handlers has come to stay, taking its place with the supervision of mother and baby, and the medical inspection of school children, as a community effort to control disease and prolong the span of life which the public can justly demand as a necessary municipal undertaking.

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AN ATTEMPT TO ISOLATE *B. TYPHOSUS* OR *B. PARATYPHOSUS* FROM CLOTTED BLOOD

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PHYSICIANS who have well-equipped hospital laboratories or local public-health laboratories at their disposal usually have blood cultures made from all patients with symptoms of typhoid fever This service has not always been available for those physicians who have to send specimens for laboratory examination through the mail, because of the difficulty of submitting unclotted blood for cultural purposes. It is believed by many that a bacteriological examination of blood can be made satisfactorily only when the specimen is put